

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Alessi et al.  
Serial No.: 09/937,009  
Filed: March 17, 2000  
For: ENZYME

## RESPONSE TO NOTIFICATION OF DEFECTIVE RESPONSE

Commissioner for Patents  
Box PCT  
U.S. Patent and Trademark Office  
Washington, D.C. 20231

Dear Sir:

In response to the Notification of Defective Response, which was mailed by the United States Patent and Trademark Office on **June 4, 2002**, enclosed are:

- (X) Preliminary Amendment (8 pgs)
- (X) Sequence Listing (26 pgs), 3.5" Diskette in computer readable form & 1.821(f) Statement (1 pg)
- (X) A copy of the Notification of Defective Response (10 pgs)
- (X) The Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 50-0772.

Dated: 26 June 2002

Susan J. Braman  
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Reg. No. 34,103

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JUN 26 2002

002.00170

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Alessi et al.	)	
		)	
Serial No.:	09/937,009	)	Examiner:
		)	
Filed:	March 17, 2000	)	
		)	Art Unit:
For:	ENZYME	)	
		)	

## CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)

Commissioner for Patents  
Box PCT  
U.S. Patent and Trademark Office  
Washington, D.C. 20231

Dear Sir:

I hereby certify that this Response to Notification of Defective Response (1 pg) with Copy of Notification, Sequence Listing pages 1-26 with 3 1/2" diskette and 1.821(f) Statement, and Preliminary Amendment (8 pgs) is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, Box PCT, U.S. Patent and Trademark Office, Washington, D.C. 20231 on

26 June 2002

(Date)

Susan J. Braman

Susan J. Braman

"Express Mail" Mailing Label Number ET730023021US


# Raw Sequence Listing Error Summary

## ERROR DETECTED

## SUGGESTED CORRECTION

SERIAL NUMBER: 09/937,009

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics  
Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 Misaligned Amino  
Numbering The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 PatentIn 2.0  
"bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s). Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 Skipped Sequences  
(OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:  
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
(ii) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
This sequence is intentionally skipped  
  
Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 Skipped Sequences  
(NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.  
<210> sequence id number  
<400> sequence id number  
000
- 9 Use of n's or Xaa's  
(NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.  
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10 Invalid <213>  
Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11 Use of <220>  
 Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.  
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 PatentIn 2.0  
"bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 Misuse of n n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.



PCT09

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/937,009

DATE: 05/15/2002  
 TIME: 16:04:41

Input Set : A:\P22517PC.txt  
 Output Set: N:\CRF3\05152002\I937009.raw

Does Not Comply  
 Corrected Diskette Needed

pp 1-5

3 <110> APPLICANT: Alessi, Dario  
 4 Balendran, Anudharan  
 5 Deak, Maria  
 6 Currie, Ricahrd  
 7 Downes, Peter  
 8 Casamayor, Antonio  
 10 <120> TITLE OF INVENTION: Enzyme  
 12 <130> FILE REFERENCE: 002.00170  
 15 <140> CURRENT APPLICATION NUMBER: 09/937,009  
 17 <141> CURRENT FILING DATE: 2000-03-17  
 20 <150> PRIOR APPLICATION NUMBER: PCT/GB00/01004  
 22 <151> PRIOR FILING DATE: 2000-03-17  
 25 <160> NUMBER OF SEQ ID NOS: 21  
 29 <170> SOFTWARE: PatentIn Ver. 2.0  
 33 <210> SEQ ID NO: 1  
 35 <211> LENGTH: 24  
 37 <212> TYPE: PRT  
 39 <213> ORGANISM: Artificial Sequence  
 43 <220> FEATURE:  
 45 <223> OTHER INFORMATION: Description of Artificial Sequence  
 49 <400> SEQUENCE: 1  
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 53 1 5 10 15  
 57 Phe Asp Tyr Ile Ala Asp Trp Cys  
 59 20  
 65 <210> SEQ ID NO: 2  
 67 <211> LENGTH: 24  
 69 <212> TYPE: PRT  
 71 <213> ORGANISM: Artificial Sequence  
 75 <220> FEATURE:  
 77 <223> OTHER INFORMATION: Description of Artificial Sequence  
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 83 Arg Glu Pro Arg Ile Leu Ser Glu Glu Glu Gln Glu Met Ala Arg Asp  
 85 1 5 10 15  
 89 Phe Asp Tyr Ile Ala Asp Trp Cys  
 91 20  
 97 <210> SEQ ID NO: 3  
 99 <211> LENGTH: 24  
 101 <212> TYPE: PRT  
 103 <213> ORGANISM: Artificial Sequence  
 107 <220> FEATURE:  
 109 <223> OTHER INFORMATION: Description of Artificial Sequence  
 113 <400> SEQUENCE: 3

(global error)

insufficient  
 explanation

(give source of  
 genetic material -  
 all item 11

on Error  
 summary  
 sheet)

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,009

DATE: 05/15/2002

TIME: 16:04:41

Input Set : A:\P22517PC.txt

Output Set: N:\CRF3\05152002\I937009.raw

115 Arg Glu Pro Arg Ile Leu Ser Glu Glu Glu Gln Glu Met Phe Gly Asp  
 117 1 5 10 15  
 121 Phe Asp Tyr Ile Ala Asp Trp Cys  
 123 20  
 129 <210> SEQ ID NO: 4  
 131 <211> LENGTH: 53  
 133 <212> TYPE: PRT  
 135 <213> ORGANISM: Artificial Sequence  
 139 <220> FEATURE:  
 141 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide  
 145 <400> SEQUENCE: 4  
 147 Glu Asp Val Lys Lys His Pro Phe Phe Arg Leu Ile Asp Trp Ser Ala  
 149 1 5 10 15  
 153 Leu Met Asp Lys Lys Val Lys Pro Pro Phe Ile Pro Thr Ile Arg Gly  
 155 20 25 30  
 159 Arg Glu Asp Val Ser Asn Phe Asp Asp Glu Phe Thr Ser Glu Ala Pro  
 161 35 40 45  
 165 Ile Leu Thr Pro Pro  
 167 50  
 173 <210> SEQ ID NO: 5  
 175 <211> LENGTH: 23  
 177 <212> TYPE: PRT  
 179 <213> ORGANISM: Artificial Sequence  
 183 <220> FEATURE:  
 185 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide  
 189 <400> SEQUENCE: 5  
 191 Asp Glu Asp Ala Ile Lys Arg Ile Asp Gln Ser Glu Phe Glu Gly Phe  
 193 1 5 10 15  
 197 Glu Tyr Ile Asn Pro Leu Leu  
 199 20  
 205 <210> SEQ ID NO: 6  
 207 <211> LENGTH: 6  
 209 <212> TYPE: PRT  
 211 <213> ORGANISM: Artificial Sequence  
 215 <220> FEATURE:  
 217 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide  
 221 <400> SEQUENCE: 6  
 223 Phe Arg Asp Phe Asp Tyr  
 225 1 5  
 231 <210> SEQ ID NO: 7  
 233 <211> LENGTH: 23  
 235 <212> TYPE: PRT  
 237 <213> ORGANISM: Artificial Sequence  
 241 <220> FEATURE:  
 243 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide  
 247 <400> SEQUENCE: 7  
 249 Asp Glu Asp Ala Ile Lys Arg Ile Asp Gln Ser Glu Phe Glu Gly Phe  
 251 1 5 10 15  
 255 Glu Tyr Ile Asn Pro Leu Leu

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,009

DATE: 05/15/2002

TIME: 16:04:41

Input Set : A:\P22517PC.txt

Output Set: N:\CRF3\05152002\I937009.raw

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257          20
263 <210> SEQ ID NO: 8
265 <211> LENGTH: 11
267 <212> TYPE: PRT
269 <213> ORGANISM: Artificial Sequence
273 <220> FEATURE:
275 <223> OTHER INFORMATION: Description of Artificial Sequence:peptide
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281 Pro His Phe Pro Gln Phe Ser Thr Ser Ala Ser
283   1          5          10
289 <210> SEQ ID NO: 9
291 <211> LENGTH: 9
293 <212> TYPE: PRT
295 <213> ORGANISM: Artificial Sequence
299 <220> FEATURE:
301 <223> OTHER INFORMATION: Description of Artificial Sequence:peptide
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307 Thr Phe Cys Gly Thr Pro Glu Phe Leu
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317 <211> LENGTH: 6
319 <212> TYPE: PRT
321 <213> ORGANISM: Artificial Sequence
325 <220> FEATURE:
327 <223> OTHER INFORMATION: Description of Artificial Sequence:peptide
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335   1          5
341 <210> SEQ ID NO: 11
343 <211> LENGTH: 13
345 <212> TYPE: PRT
347 <213> ORGANISM: Artificial Sequence
351 <220> FEATURE:
353 <223> OTHER INFORMATION: Description of Artificial Sequence:peptide
357 <400> SEQUENCE: 11
359 Arg Gln Arg Tyr Gln Ser His Pro Asp Ala Ala Val Gln
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367 <210> SEQ ID NO: 12
369 <211> LENGTH: 28
371 <212> TYPE: DNA
373 <213> ORGANISM: Artificial Sequence OK
377 <220> FEATURE:
379 <223> OTHER INFORMATION: Description of Artificial Sequence:pcr primer
383 <400> SEQUENCE: 12
385 cgggatccga ggaatgtaaaa aagcaccc
389 <210> SEQ ID NO: 13
391 <211> LENGTH: 7
393 <212> TYPE: PRT
395 <213> ORGANISM: Artificial Sequence

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28

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,009

DATE: 05/15/2002

TIME: 16:04:41

Input Set : A:\P22517PC.txt

Output Set: N:\CRF3\05152002\I937009.raw

```

399 <220> FEATURE:
401 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide
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407 Arg Pro Arg Thr Ala Ala Phe
409   1           5
415 <210> SEQ ID NO: 14
417 <211> LENGTH: 77
419 <212> TYPE: PRT
421 <213> ORGANISM: Artificial Sequence
425 <220> FEATURE:
427 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide
431 <400> SEQUENCE: 14
433 Glu Asp Val Lys Lys His Pro Phe Phe Arg Leu Ile Asp Trp Ser Ala
435   1           5           10           15
439 Leu Met Asp Lys Lys Val Lys Pro Pro Phe Ile Pro Thr Ile Arg Gly
441           20           25           30
445 Arg Glu Asp Val Ser Asn Phe Asp Asp Glu Phe Thr Ser Glu Ala Pro
447           35           40           45
451 Ile Leu Thr Pro Pro Arg Glu Pro Arg Ile Leu Ser Glu Glu Gln
453           50           55           60
457 Glu Met Phe Arg Asp Phe Asp Tyr Ile Ala Asp Trp Cys
459   65           70           75
465 <210> SEQ ID NO: 15
467 <211> LENGTH: 77
469 <212> TYPE: PRT
471 <213> ORGANISM: Artificial Sequence
475 <220> FEATURE:
477 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide
481 <400> SEQUENCE: 15
483 Glu Asp Val Lys Lys Gln Pro Phe Phe Arg Thr Leu Gly Trp Glu Ala
485   1           5           10           15
489 Leu Leu Ala Arg Arg Leu Pro Pro Pro Phe Val Pro Thr Leu Ser Gly
491           20           25           30
495 Arg Thr Asp Val Ser Asn Phe Asp Glu Glu Phe Thr Gly Glu Ala Pro
497           35           40           45
501 Thr Leu Ser Pro Pro Arg Asp Ala Arg Pro Leu Thr Ala Ala Glu Gln
503           50           55           60
507 Ala Ala Phe Leu Asp Phe Asp Phe Val Ala Gly Gly Cys
509   65           70           75
515 <210> SEQ ID NO: 16
517 <211> LENGTH: 80
519 <212> TYPE: PRT
521 <213> ORGANISM: Artificial Sequence
525 <220> FEATURE:
527 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide
531 <400> SEQUENCE: 16
533 Lys Glu Ile Met Gln His Arg Phe Phe Ala Gly Ile Val Trp Gln His
535   1           5           10           15
539 Val Tyr Glu Lys Lys Leu Ser Pro Pro Phe Lys Pro Gln Val Thr Ser

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,009

DATE: 05/15/2002

TIME: 16:04:41

Input Set : A:\P22517PC.txt

Output Set: N:\CRF3\05152002\I937009.raw

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541          20          25          30
545 Glu Thr Asp Thr Arg Tyr Phe Asp Glu Glu Phe Thr Ala Gln Met Ile
547          35          40          45
551 Thr Ile Thr Pro Pro Asp Gln Asp Asp Ser Met Glu Cys Val Asp Ser
553          50          55          60
557 Glu Arg Arg Pro His Phe Pro Gln Phe Ser Tyr Ser Ala Ser Thr Ala
559          65          70          75          80
571 <210> SEQ ID NO: 17
573 <211> LENGTH: 75
575 <212> TYPE: PRT
577 <213> ORGANISM: Artificial Sequence
581 <220> FEATURE:
583 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide
587 <400> SEQUENCE: 17
589 Gly Glu Val Gln Ala His Pro Phe Phe Arg His Ile Asn Trp Glu Glu
591   1          5          10          15
595 Leu Leu Ala Arg Lys Val Glu Pro Pro Phe Lys Pro Leu Leu Gln Ser
597          20          25          30
601 Glu Glu Asp Val Ser Gln Phe Asp Ser Lys Phe Thr Arg Gln Thr Pro
603          35          40          45
607 Val Asp Ser Pro Asp Asp Ser Thr Leu Ser Glu Ser Ala Asn Gln Val
609          50          55          60
613 Phe Leu Gly Phe Thr Tyr Val Ala Pro Ser Val
615   65          70          75
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623 <211> LENGTH: 82
625 <212> TYPE: PRT
627 <213> ORGANISM: Artificial Sequence
631 <220> FEATURE:
633 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide
637 <400> SEQUENCE: 18
639 Met Glu Ile Lys Ser His Val Phe Phe Ser Leu Ile Asn Trp Asp Asp
641   1          5          10          15
645 Leu Ile Asn Lys Lys Ile Thr Pro Pro Phe Asn Pro Asn Val Ser Gly
647          20          25          30
651 Pro Asn Glu Leu Arg His Phe Asp Pro Glu Phe Thr Glu Glu Pro Val
653          35          40          45
657 Pro Asn Ser Ile Gly Lys Ser Pro Asp Ser Val Leu Val Thr Ala Ser
659          50          55          60
663 Val Lys Glu Ala Ala Glu Ala Phe Leu Gly Phe Ser Tyr Ala Pro Pro
665   65          70          75          80
669 Thr Asp
677 <210> SEQ ID NO: 19
679 <211> LENGTH: 76
681 <212> TYPE: PRT
683 <213> ORGANISM: Artificial Sequence
687 <220> FEATURE:
689 <223> OTHER INFORMATION: Description of Artificial Sequence: peptide
693 <400> SEQUENCE: 19

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*Please correct  
this error in  
subsequent sequences.*



VERIFICATION SUMMARY

PATENT APPLICATION: US/09/937,009

DATE: 05/15/2002

TIME: 16:04:42

Input Set : A:\P22517PC.txt

Output Set: N:\CRF3\05152002\I937009.raw



## UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box P-1  
 United States Patent and Trademark Office  
 Washington, D.C. 20513  
 www.uspto.gov

U.S. APPLICATION NUMBER NO	FIRST NAMED APPLICANT	ATTY. DOCKET NO
09/937,009	Dario Alessi	002.00170

INTERNATIONAL APPLICATION NO

PCT/GB00/01004

I.A. FILING DATE

03/17/2000

PRIORITY DATE

03/19/1999

Karla M Weyand  
 Braman & Rogalskyj  
 PO Box 352  
 Canandaigua, NY 14424-0353

CONFIRMATION NO. 2823

371 FORMALITIES LETTER



\*0C000000008210431\*

Date Mailed: 06/04/2002

## NOTIFICATION OF DEFECTIVE RESPONSE

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fee
- Priority Document
- Biochemical Sequence Listing
- Copy of IPE Report
- Copy of references cited in ISR
- Copy of the International Application
- Copy of the International Search Report
- Oath or Declaration
- Preliminary Amendments
- Request for Immediate Examination

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

**Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.136, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).**

The following items **MUST** be furnished within the period set forth below:

- The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821-1.825 for the following reason(s):
  - A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 CFR 1.821(e).
  - A copy of the "Sequence Listing" in computer readable form has been submitted. The content of the computer readable form, however, does not comply with the requirements of 37 CFR 1.822 and/or 1.832,

as indicated on the attached marked-up copy of the "Raw Sequence Listing."

■ **APPLICANT MUST PROVIDE:**

- An initial or substitute computer readable form (CRF) of the "Sequence Listing."
- An initial or substitute paper copy or compact disc of the "Sequence Listing," as well as an amendment directing its entry into the specification.
- A statement that the contents of the paper or compact disc and the computer readable form are the same and, where applicable, include no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b) or 1.825(d).

● For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (703) 308-4216
- To Purchase PatentIn Software, call (703) 306-2600
- For PatentIn Software Program Help, call (703) 306-4119 or e-mail at [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or [patin3help@uspto.gov](mailto:patin3help@uspto.gov)

- A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 CFR 1.821(e).
- A copy of the "Sequence Listing" in computer readable form has been submitted. The content of the computer readable form, however, does not comply with the requirements of 37 CFR 1.822 and/or 1.832, as indicated on the attached marked-up copy of the "Raw Sequence Listing."

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

SHAKEEL AHMED

Telephone: (703) 305-3659

**PART 2 - OFFICE COPY**

U.S. APPLICATION NUMBER NO	INTERNATIONAL APPLICATION NO	ATTY. DOCKET NO.
09/937,009	PCT/GB00/01004	002..00170